

Amendment Under 37 C.F.R. § 1.111

USSN 10/082,264

Attorney Docket Q68570

December 23, 2005

REMARKS

Claims 1-6 are all the claims pending in the application.

In the last Office Action, Claims 1-6 inclusive were rejected under 35 U.S.C. § 102(b) as being anticipated by Dang Vu *et al.* It is submitted that the claims would not be anticipated by or obvious in view of the teachings of Dang Vu for the following reasons.

The patent to Dang Vu *et al.* should be regarded as a mere technical background of the invention, disclosing a pseudo-isothermal reactor with conventional plate heat exchangers as the one described in the prior art section of the present invention.

Dang Vu *et al.* fails to disclose the features recited in the "comprising" portion of present Claim 1. In particular, according to Dang Vu *et al.*, only one single flow of a heat exchanger operating fluid is disclosed, which crosses the heat exchangers according to an inlet/outlet path (see for instance figure 3). The claimed step of feeding a second flow of heat exchange operating fluid at one or more intermediate positions of such an inlet/outlet path is thus neither disclosed nor suggested by Dang Vu *et al.*

In other words the advantageous features of having two flows of operating fluid separately fed to the heat exchanger, the second flow being fed at one or more intermediate positions of the inlet/outlet path of the first flow is totally missing from this document.

Therefore, the technical problem of the present invention and the claimed solution thereto cannot be considered as being suggested or disclosed by Dang Vu *et al.*

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In this respect, please take note that thanks to the present invention, and in particular by suitably selecting the inlet temperature of the second flow of operating fluid and the number of said intermediate positions, wherein a mixing of such second flow with the fluid of the first flow takes place, it is advantageously possible to bring the temperature of the operating fluid back to the inlet temperature or at least to a temperature very close thereto, thus controlling the heat exchange coefficient to all advantage of the degree of completion of the chemical reaction involved.

In view of the foregoing amendments and arguments it is submitted that Claim 1 is not anticipated by or obvious in view of the teachings of Dang Vu *et al.* The same arguments also apply with respect to the heat exchanger according to Claim 2 and the claims dependent therefrom. In particular, it should be noted that the distributor manifolds (6.2a) cited by the Examiner with respect to Dang Vu *et al.* have nothing to do with and cannot be compared or confused with the at least one distributor of the present invention. As clearly recited in Claim 2, the distributor is fixed to at least one of the wide walls. According to the present invention, such a distributor allows the feeding of a second flow of operating fluid in the internal chamber of the heat exchanger, thus mixing it with the flow of operating fluid flowing along the inlet/outlet path. To this aim, the distributor is also in communication with at least a duct for feeding thereto the second flow of operating fluid.

On the contrary, in Dang Vu *et al.* the manifolds 6.2a are provided between the two wide walls, at a side edge thereof, i.e. they merely represent a sort of side wall (of reduced width) of the heat exchanger (see for instance, Dang Vu *et al.*, figure 1). In Dang Vu *et al.*, the manifolds

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6.2a are thus connecting elements between superimposed heat exchangers in order to collect the operating fluid coming from a first exchanger (6.3, 1a) and distributing it to a second lower exchanger (6.3, 2a). No feeding duct in communication with such manifolds 6.2a is disclosed in *Dang Vu, et al.*

In view of the foregoing amendments and arguments with respect to Claims 2-6, it is submitted that claims 2-6 inclusive would not be anticipated by or obvious in view of the teachings of *Dang Vu et al.*

In the last Office Action Claims 1-6 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over Claims 1-6 of co-pending application serial number 10/648,894 (US 2004/0091403). It is noted that the correct serial number of the application as indicated in the patent application publication is 10/648,894. A Terminal Disclaimer is submitted herewith thereby obviating this rejection.

In the last Office Action the Examiner stated that if the claims were amended to a heat exchanger as opposed to a method of using the heat exchanger Applicant would be subjected to an obviousness-type double patenting rejection over 10/493,035 (US 2005/0061490). This position is respectfully traversed since the subject matter of independent Claim 2, as amended, is not anticipated by or obvious in view of the disclosure of the co-pending application.

Application No. 10/493,035 merely teaches a plate heat exchanger having an internal chamber intended for being passed through by a heat exchange operating fluid in fluid communication with the fluid inlet connector and a fluid outlet connector. In this document, the essential features of the claimed heat exchanger according to the present invention, wherein the

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chamber is further in fluid communication with at least one distributor fixed to at least one of the heat exchanger walls at a predetermined distance from the inlet and outlet connectors, are totally missing.

In view of the foregoing distinctions, it is submitted that it would be improper to subject Claims 2-6 inclusive to an obviousness-type double patenting rejection.

In view of the above, reconsideration and allowance of this application are now believed to be in order, and such actions are hereby solicited. If any points remain in issue which the Examiner feels may be best resolved through a personal or telephone interview, the Examiner is kindly requested to contact the undersigned at the telephone number listed below.

The USPTO is directed and authorized to charge all required fees, except for the Issue Fee and the Publication Fee, to Deposit Account No. 19-4880. Please also credit any overpayments to said Deposit Account.

Respectfully submitted,



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